



# AN EVOLUTION AND TRANSFORMATION OF UNIVERSITY EDUCATION IN INDIA

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## ABSTRACT

Higher Education is considered to be the most important for the development of any country. It has a remarkable place in the process of social, political and economical change in any economy, as higher education directly contributes towards the human resource development of the country by educating and placing people in the workforce. It also enhances the style of living. In this context the human resource today is highly technological than ever and are demanding new and innovative ways to learn. As a result of development of smart phones, smart devices, smart systems and smart technologies, there is enormous opportunities to increase the quality of teaching- learning in higher education. This paper presents the up to date outcomes of researches that aimed to analyze the evolution of higher education in India including concepts of smart classrooms, smart institutions and smart systems for development of smart education at higher level.

**KEY WORDS:** Innovation at Higher Education, Smart Classroom, Smart Institution, Smart Pedagogy, Education for all etc.

## INTRODUCTION:

Higher education has an important place in the process of social, political and economical change in any economy. The importance of higher education cannot be ignored whether as a source of new knowledge or as an innovative contributor in the field of research or as a porter of human power. Although all the levels of education comprises an important component in human resource development but higher education directly contributes towards the economic development of the country by educating and placing people in the workforce directly and enhancing their life style. Higher education can also be referred as University Education. Invention of most prominent physical and spiritual power (talent) comes under the area of university education. In this way university education should be more goals oriented and act as a catalyst towards social, economic and political changes and expectations of the country. At the same time the communication system of every university should be open to the vast repository of knowledge from different parts of the world. The main aim of university education is to awake international interest and welfare, to protect and conserve human civilization as well as the environment too. In this way every university should be an international institution and also a smart institution.

## A BRIEF HISTORY OF HIGHER EDUCATION IN INDIA:

Education in India dates back to its early civilization time where teaching and learning process revolved around the 'Gurukul system'. This system had been a residential concept wherein the students were educated under the tutorship of a teacher in different areas of religion, philosophy and science. Modern concept of University style education centers were established around 6 BC at Nalanda and Takshila. The concept centralized learning centers with multiple streams continued till the arrival of Europeans to the Indian subcontinent. These higher learning centers were nerve centre of different dynasties which ruled across India for thousands of years and generated the required human resources for construction, irrigation and warfare. In the middle ages up to 1200 AD the religion based higher learning centers were established throughout the Indian peninsula. These learning centers attracted students from Central Asia, China, Middle East, South East Asia and Rome focusing on Literature, Philosophy, Astronomy, Architecture etc. whose influence can be seen across the world.

In the early modern age after 1200 AD the Islamic influences enriched the traditional University learning centers and brought in the disciplines of Geography, Law, Administration and Arabic mathematics to Indian subcontinents.

The major change in the traditional style of higher education was brought by the European rulers starting from 1600 AD. Till 1850 informal European style learning centers existed across India. Their main focus was in development of European language speaking administrators and clerks for enriching the establishment of the European rule. The British were successful by 1800 in controlling much the Indian sub-continent under the rule East India Company. The British established formal system of higher education which continues till date. Lord Macaulay had been responsible in making English as the language of instruction across the education system in India. The British style University was established in Calcutta, Mumbai and Chennai in the year 1857 based on the model of University of London which has been the foundation of the modern higher education system in India. Universities focused on languages, literature, history and philosophy. These learning centers were focused on generating English speaking working class for the British administrative services, army and trade. Modern Science and engineering education which flourished in Europe and America during the late 1800 weren't the main focus under the British rule. By 1903 the Indian

Institute of Science was established by Tata with focus on research in science and engineering which is the first higher technical learning system in modern India. The British model of University system continued expand across India leading to growing number of higher learning centers by 1947.

## HIGHER EDUCATION AND UNIVERSITY SYSTEM IN INDIA (PRESENT SCENARIO):

India with second largest population is home to the third largest higher education system in the world by volume of students enrolled. Government of India through Ministry of Human Resource development (MHRD) under the Department of Higher Education shapes the policies related to higher education. The University Grants Commission (UGC) a statutory body established in 1956 through Parliament enacted law modeled on the UGC of United Kingdom is responsible for co-ordination, evaluation and maintaining standards of higher education in India. UGC funded through MHRD is responsible for establishing central universities across India and for recognizing Deemed to be Universities run by privately funded trusts and Universities established by the 28 Federal State governments across India. UGC has established statutory Councils to promote, provide grants, set standards and establish professional education in different areas. After 1992 when the University affiliation systems was opened to private investors with less bureaucracy India has seen tremendous increase in the number of Universities and colleges across India. Most of the Universities cater to large number of affiliated colleges in a particular geographical location figure 2 gives the overall statistics of the University system in India. Over the last three decades the University education system has reached stagnation in terms of up gradation, Research & Development and administration. Large volume of students coupled with strict government's norms and lack of industry investment in University and College research has resulted in turning these colleges as mass training centers for generating skilled manpower for the service industry and totally neglecting science and research.

## PROBLEMS OF HIGHER EDUCATION IN INDIA:

Our university system is, in many parts, in a state of disrepair...In almost half the districts in the country, higher education enrollments are abysmally low, almost two-third of our universities and 90 per cent of our colleges are rated as below average on quality parameters... I am concerned that in many states university appointments, including that of vice-chancellors, have been politicized and have become subject to caste and communal considerations, there are complaints of favoritism and corruption.

– *Former Prime Minister Manmohan Singh in 2007*

In the light of above mentioned quote I would like to explain the system of Indian Higher education is the second largest in the world which fulfills the educational requirements of millions of students who come from different sections of the society since it is the student community that can help to generate healthy academic atmosphere in institutions of higher learning. No doubt that India faces today a number of problems pertaining to poverty unemployment disappearance of moral and spiritual values. But in the last few decades a countrywide problems/challenges have emerged in Higher Education system in India they are discussed as under.

- **Lower level of teaching quality:** Our education system is torture by issues of quality in many of its institutions and universities. Many of the issues like lack of faculty, poor quality teaching, Traditional teaching methods, outdated and rigid curricula and pedagogy, lack of accountability and quality

assurance and separation of research and teaching are raise questions on Indian education system.

- **Financing of higher education:** One of the most important problem, that have to be noticed is the issue of financial constraints regarding higher education. Expenditure on education in common and on higher education in particular by the government, is one of the parameters to judge the quality in education for all nation. The State Government have already been spending 20-30 per cent of its revenue budget on education. It cannot afford to spend more. In India, higher education has received less attention in terms of public spending than other levels.
- **More concentrated on theories and rather than practical knowledge:** Indian education system is more focused on theoretical knowledge rather than practical knowledge. In many jobs there is also a minimum requirement of percentage which is high.
- **Traditional methods of teaching:** Professors still stick to those older methods of teaching like board, marker. They don't like to make use of audio visual aids in teaching. Also they are not up to date with the information available and what global industry demands.
- **Privatization:** In the present scenario, privatization of higher education is apparently a fledgling but welcome trend and is essential to maintain creativity, adaptability and quality. The economic trail of liberalization and globalization demands it. In India both public and private institutions operate simultaneously. Approximately 50 per cent of the higher education in India is imparted through private institutions, mainly unaided involving high cost. However, the situation is not so simple. Private providers, in the interest of maximizing profit, have every incentive to 'minimize costs' by compromising on the quality of education provided in their institutions. Last but not least, quality of teaching staff is one of the considerable issues for higher education sector to sustain in the future. Earlier, they were committed to their students to their subjects and to their profession. Today, high salaries are available but the commitment is less. Thus, it is the need of the hour to free the higher education system from unnecessary constraints and political interference.
- **Inadequate facilities and infrastructure:** In India, many of the universities don't have adequate infrastructure or facilities to teach students. Even many private universities are running courses without classrooms. Internet and Wi-Fi facility is still out of reach of many students.
- **Quota system:** Bringing the reservation and quota system for different categories in education lost its quality. Even deserving candidates of general categories are ignored and on quota we have to select other person from reserved category even though he is not suitable.
- **Heterogeneous education system:** Our heterogeneous education system which is based on geographical, rural-urban, rich-poor set up has posed in great challenge for the educational institutions. Varieties of colleges, universities, technical institutions have produced different types and quality of education. Some of them are really imparting qualitative education although a few others are doing the dirtiest job. Thanks to UGC, for publishing the list of such fake Universities and Institutions which are indulge in educational malpractices.
- **Interference of political factors:** Most of the Institutions, imparting education (Aided-non aided) are owned by the dominant political leaders, now playing key role in governing bodies of the Universities. They have established their own youth cells and encourage students' organization on political basis. They exploit the students' energy for their political purposes. The students forget their own objectives and begin to develop their career in politics.
- **Economic Difficulties:** Is one of the most troublesome changes that the present higher education system has imposed on the communities? The numbers of students are coming from the ordinary classes; many of them are unable to provide the minimum necessities of life for themselves. Economic miseries have grown due to the increasing prizes, habits of wasting money on luxuries, increasing population, scarcity of food supply, corruption, selfish etc. students hold part time jobs in order to pay for the their educational expenses and should divide their attention between a job and College/University education. Near about seventy five percent of the total students community today, have been facing the financial problems. Earn while learn scheme cannot adequately support student to face economic challenges.
- **Lack of Moral values:** Rapid growth of science and technology and subsequent industrialization has caused a great and danger to our old moral and values. The younger generation's dissatisfaction and revolt is the outcome of a decaying system of values.

#### NEED AND IMPORTANCE OF TRANSFORMATION AT HIGHER EDUCATION:

We are in the age of next level evolution of University education. Therefore we

need to develop new conceptual models and identify unique features, systems and technologies for that purpose. As **Albert Einstein** said, *"We cannot solve our problems with the same thinking we used when we created them"*. This is probably the primary reason behind undergoing researches by multiple researchers and research teams in different parts of the world who are actively working on the development of various design, innovative testing and development of innovative smart technologies, software/hardware and smart device to be implement directly in the educational processes and university campuses. For example research projects on applications of Smart University and smart classroom mainly focus on – Internet, Cloud computing, Virtual reality, Artificial intelligence, Remote labs, Wireless Sensor Networking (WSN) as well as many other types of emerging and advanced technologies. In several recent years, the area of education has changed devotedly just because the civilization has moved completely from traditional or mechanical to technological. If we take university as a manufacturing unit (factory) then humans are their inputs and outputs. Today each and every individual of any country in the world is a techno savvy. He is depending on modern technology in many ways. As a result of that University education should also upgrade it and must become "Smart University".

#### EMERGING CONCEPTS IN HIGHER EDUCATION:

- **Smart Universities:** The concept of "Smart University" is an emerging and fast growing trend in the area of university education. It represents the creative integration of innovative concepts, smart software/hardware systems, smart classrooms with up-to-date technical platforms, smart pedagogy based on modern teaching and learning strategies. Smart University concepts are actively deployed and used by leading universities, academic institutions and training organizations around the world.
- **Smart campus:** Smart campus development approach is based on ontology based framework which represents, analyze and visualize human mobility and movement. This include mainly smart data visualization technology and motion tracking system to analyze the information gathered through the sensors and sensing systems. This approach is also based on higher stage of educational information systems that connect everything through sensors and internet which include portal architecture, smart management, infrastructure and integrated hardware device and cloud storage as the means of data storage.
- **Smart classroom:** Smart classroom approach is based on idea of having a classroom equipped with networked computers and audio- visual devices to facilitate teachers to teach students physically in the classroom as well as in remote located areas. It is the idea of next generation classroom which should be significantly emphasized not only software and hardware features but also smart functioning of it. Such as:
  1. Face recognition system
  2. Speech and Voice recognition system
  3. Repositories of digital learning content and online resources, learning portals etc.
  4. Virtual reality technology
  5. SMART Boards and interactive white boards
  6. Adaptive program of study i.e. major and minor programs, certificate programs with flexible structures suitable for students/learners,
  7. Smart pedagogy
  8. Adaptation of technology based teaching style for identification of ability/talent.
- **Smart Teaching Learning:** Smart teaching learning approach is based on an educational concept that does not simply rely on technological education but is also self directed, motivated, adaptive and enriched with resources. This approach focuses on synchronization issues between students and teachers, quality educational outcomes, evidence based planning system etc. According to this approach classrooms should be reformed to accommodate the behavior and characteristics of present digital students and bring change in educational environment with restructuring classroom settings.
- **Education for all:** At higher education the pattern of inclusive education should be followed. All students must allow getting equal educational opportunities. All students should have the resources necessary for a high-quality education. But the truth remains same that students of lower background and disadvantaged students need more to get there. Here the concept of equity and equality comes in the field of education. The students who are furthest behind most often low-income students and students of physically and socially disadvantaged group require more of those resources to catch up, succeed, and eventually, close the achievement gap.

#### CONCLUSION:

The primary focus of the concept of transformation is in the educational area, but they also drive the change in other aspects, such as management, safety and environmental sustainability. Emerging newer technologies are needed essentially in this current fast changing digital era. This acts as a life saving medicine for those

universities which are hanging on ventilator. It leads to the adaptation of a variety of smart solutions in university environment and higher education system to enhance the quality of education and to improve the performances of both teachers and students. Lastly, one point should be noted very carefully that being smart is not enough for all university at all. In fact, they should become smarter in order to optimize learning where knowledge can be shared between employees, teachers, students and all stakeholders in a seamless way.

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